DOCUMENT RESUME

ED 282 844 SP 028 869

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TITLE Cognition and Metacognition in Teachers' Professional Development.
PUB DATE Apr 87
NOTE 20p.; Paper presented at the Annual Meeting of the American Educational Research Association (Washington, DC, April 20-24, 1987).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cognitive Processes; Field Experience Programs; Higher Education; Metacognition; *Preservice Teacher Education; Primary Education; *Professional Development; *Student Teacher Attitudes; *Student Teachers

ABSTRACT

This research explored how student teachers learn to teach and how they orient themselves to the processes of professional learning. A group of ten primary-grade student teachers were followed through a one-year post-graduate teacher training course, focusing primarily on the one-term field experience that occurred in the middle of the year. The students were regularly observed and interviewed about their teaching and what they were extracting from the experience. Their college tutors, supervising teachers, and principals were interviewed concerning their role in facilitating professional learning. Though experiences varied, the student teachers commonly passed through three phases, each characterized by a different conception of the student teaching task. The first involved anxiety while "fitting in" to the supervising teacher's routines. The second focused on "passing the test" and satisfying college tutors of their basic competence. The third phase was characterized by students, teachers, and tutors regarding the field experience as an "opportunity to experiment" and discover one's own style of teaching. In all three phases, however, a number of constraints acted to limit students' learning from the experience. As a result, student teachers' professional learning quickly reached a plateau, and their analysis and development of practice remained at a superficial level. The paper concludes with some discussion on the implications of the research for the design of preservice teacher education courses. (Author/JD)

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Cognition and Metacognition in Teachers' Professional Development

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SP 028 869

Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C., April 1987.

Abstract

This research aimed to explore how student teachers learn to teach and how they orientate themselves to the processes of professional learning. It involved following a group of 10 student primary teachers through their year-long post-graduate teacher training course, and focused particularly on the one-term field experience that occurred in the middle of the year. The students were regularly observed and interviewed about their teaching and about what they were extracting from the experience. Their college tutors, supervising teachers and school principles were also interviewed concerning the role that they saw themselves fulfilling in facilitating professional learning.

Although individual student teachers' experiences over the term in school varied considerably, there were 3 phases through which student teachers commonly passed, each characterised by a different conception of the student teaching task. The first involved a great deal of anxiety concerning the teaching role, while 'fitting in' to the supervising teacher's routines. The second focused on 'passing the test', and satisfying college tutors of their basic competence. The third phase was characterised by students, as well as teachers and tutors, regarding the field experience as an 'opportunity to experiment' and discover one's own style of teaching. In all 3 phases, however, a number of constraints acted to limit students' learning from the experience. As a result, student teachers' professional learning quickly reached a plateau, and their analysis and development of practice remained at a superficial level.

The paper concludes with some discussion on the implications of the research for the design of pre-service teacher education courses.

Introduction

Although there is a growing body of research evidence on student teaching, much of this focuses on students' educational opinions, their attitudes to teacher training, and their socialisation into the teaching profession (see Katz and Raths, 1984; Lanier and Little,1986). Relatively little research (see Russell, 1986; Showers, 1986) directly addresses the issue of teachers' professional learning. How do student teachers learn to teach? What do they learn? How does their learning relate to the development of their classroom practice? Pre-service training courses inevitably make several assumptions about the nature of professional learning, these being implicit in the organisation, content and assessment of the course, but there is little empirical evidence or appropriate theoretical models on which the design of teacher training courses might explicitly be based.

This study set out to explore the kinds of interpretive frameworks student teachers use in their thinking about classroom practice, how these frameworks are influenced by their professional training experiences and by those involved in managing the students' professional development, and how these interpretive frameworks shape the development of students' classroom practice. Attention focused particularly on the effects of school-based experience.

The Research

A group of 10 student primary teachers were followed through their one-year post-graduate professional training course for middle years (8-13) teaching. Semi-structured interviews were used to collect data about their perceptions of teaching in general and of the processes of

professional learning. On the major one-term field experience, which occurred in the middle term of the year, students' lessons were observed on 4 occasions throughout the term; field notes were taken and these formed the basis of post-lesson interviews which focused on their planning of the lesson, and their own perceptions and evaluations of it. The post-lesson interviews also considered what the students felt they were learning from the field experience, what were particularly useful experiences for them and why, and how their experience in school was contributing to their own learning about teaching. In addition, those involved in the training of the student teachers (supervising teachers, college tutors, and headteachers) were interviewed about their perceptions of the student teaching experience and their role in students' professional development. Post lesson discussions between student teacher and college tutor, and between student teacher and supervising teacher were also observed whenever possible, and field notes taken.

Learning to Teach

The major characteristic of the first two weeks of the field experience was students' very high level of anxiety. Students reported "walking around like zombies", "not being able to sleep at nights", "waking up at 3 in the morning, pacing the floor, reciting lessons for the next day." One reported being physically sick every morning before going to school for the first two weeks. The students felt that this anxiety resulted from several factors. First of all, there were stresses associated with the job itself. All of the students found that the task of looking after 30 or so young children brought with it a surprising amount of emotional strain. Anxiety also emerged from the fact they were being assessed. The students were

conscious of being watched by their supervising teachers, the college tutors who came to see them in the first week, the headteachers and pupils. A third source of anxiety was the shock that accompanied the realisation that their conceptions of teaching didn't match classroom reality. All of the students started the field experience with some ideal conceptions or images of the teaching role and of teacher-pupil relationships. Typically, the teaching role would be viewed as that of guide and friend, and the relationship between teacher and pupil was envisaged in terms of warmth, co-operation and mutual respect. This contrasted sharply with the perceived role of their supervising teacher and with the role that the students thought they were expected to fulfil. The students usually regarded their supervising teachers as "disciplinarians", "unnecessarily strict", and even "tyrants" and "ogres". One half-jokingly claimed that her supervising teacher was better equipped for the Gestapo than the primary classroom. Coming from a relatively liberal university environment, classroom relationships were perceived as extremely and unnecessarily authoritarian. The fact that they had neither the opportunity nor the ability to develop their ideal teaching role coupled with the fact that they often had to adopt their supervising teacher's strategies in order to obtain a response from the class added to their anxiety.

Some students appeared to cope with these contrasting role demands more easily than others. In particular, part of the conception that 3 of the students had of teaching was that it involved putting on a performance to suit the occasion. In talking about situations where they had to be an authority figure, they would make such comments as "There are times when I want to laugh at an incident, but I have to make it seem to the children that it's the end of the world" and "I

sometimes make myself look like a 'hard guy' but it's all a con really - I smile at myself afterwards."

In contrast four of the students had a strong commitment to maintaining their own identity in the classroom. In teaching, it was important for them to be themselves and not develop what they perceived as a contrived teaching persona. "It's important to be a genuine person in there, just as I would want to be with people outside the classroom," said one student. For these students, coming to terms with the role expectations they encountered was more stressful. Eventually, all but one accepted that they had to comply to some extent with the teaching role as defined in the school, even if it was only for the duration of the field experience. One student, despite reassuring comments from her college tutor and supervising teacher, resisted conforming to a 'teaching act', and at the end of the field experience was questioning her suitability for teaching. Coping with initial failures was also more stressful for these students. Those who regarded teaching as putting on an act could look back at an unsuccessful lesson and think, "my performance wasn't good today." In doing so, they could psychologically distance themselves from the performance. Those who regarded teaching as an extension of themselves tended to reflect on initial failures in more personal terms. "I think there must be something wrong with me that I can't relate to these children."

The pressures that students experienced to conform to a role that differed markedly from their ideal tended to reinforce their early perceptions that the field experience required them to fit in to another teacher's way of working. Joining the class in the middle of

the year, the students mostly saw their task as one of fitting in to the supervising teacher's routines. They had to adopt the timetable that already existed, and take on the established procedures for class work. Once the initial anxieties about role conflict were resolved, the students in fact viewed their supervising teachers as valuable sources of advice and encouragement. Even when they disapproved of their supervising teacher's practice, they frequently modelled their classroom behaviour. They adopted their supervising teacher's ways of working and even, at times, their idiosyncracies of speech and manner.

When students encountered difficulties in teaching, they often reflected back on their supervising teacher's practice. For instance, on one occasion, a student put the morning's maths work on the board for each of three groups. A common task for all of the groups was a '9-a-day' arithmetic exercise. In that day's particular assignment there was a series of questions on place value worded in a way that was unfamiliar to the children. As a result, much of the student's time that morning was spent explaining these questions to individuals and small groups who came to her throughout the lesson querying the instructions. Afterwards, reflecting about this waste of time, she commented "Now I understand why Mr. X always goes over the mental arithmetic before they get down to work."

In the early weeks of the field experience, students reported learning a lot about classroom management and about the children. They learned how to organise and conduct different activities and from the results of their own teaching learned a lot about the behaviour and capabilities of the children. For instance, one student, acting on advice given in the college methods course, introduced fractions to

first year juniors with lots of examples of cutting things into halves and quarters and eighths. However, she discovered that an equilateral triangle cut into half wasn't recognised in terms of 'halves' by the children unless the triangle sat on its base with the apex pointing up. And when cutting coloured strips of paper into halves, quarters and eighths and sticking them under one another to indicate that two halves, four quarters, and eight eighths all have the same total length, the student realised that 7-8 year-old's 'cutting and sticking skills' tend to obstruct the object of the activity when their crooked 'eighths' lines ended up almost twice as long as their single unit line. These experiences accompanied some confusing lessons, but the knowledge gained in this way about children and activities helped the students think about the planning of future work.

Students' professional learning, however, seemed quickly to reach a plateau, or at least a very gradual incline. By mid-term, students found it very much more difficult to cite examples of what they had recently learned about teaching. Their daily work had become routine - planning lessons, teaching and then writing up evaluations and planning lessons again for the next day. As one student put it, "It's like turning the handle of a sausage machine." At this point in the field experience, most students had developed a conception of the field experience as an assessment task. They commonly likened it to a driving test, in which there was a series of skills which they had to perform. The object of the exercise was to pass the test and "after you've passed you can teach the way you really want to." The college tutor was regarded as the examiner who had to be impressed. The supervising teachers were viewed as being on the student's side: they were instructors who were a source of advice on how to succeed.

These views of the field experience resulted in students identifying a series of 'professional actions' which would please their tutors and obtain credit in their assessment. These actions were identified through their talk with the class teachers and also through the feedback that they had already obtained from their tutors in the first weeks of the placement. The important actions included having a colourful wall display relevant to a current topic of study, ensuring silence from the children when talking to them as a class, circulating around the class when the children are working, keeping the noise level down, drawing the children together at the end of a lesson before dismissing the class in an orderly fashion, and keeping one's teaching practice file up-to-date.

This image of a 'model' lesson resulted in some fairly stereotyped teaching, particularly when students were being observed by their college tutor. Students would introduce an activity, set the children to work, circulate and then bring the activity to an end. Frequently, however, their teaching behaviour was driven by their concerns with assessment rather than any concerns for effective instruction. For instance, several students independently confided that when they circulated they actually felt as though they were getting in the children's way and they'd really be much better sitting down waiting for the children to come to them. Their reasons for not doing so were that their supervising teacher circulated (or had told them to circulate) and it was what their college tutor expected. Despite several probing questions, students did not reveal any appreciation that circulating may be a useful integrated series of instructional and managerial strategies (e.g. helping some less able children to get

started, monitoring the pace of the activity, moving to a particular part of the room as a way of quietening down some boisterous children, etc.). Circulating was a behaviour to be demonstrated, not a purposeful orchestration of instructional and managerial strategies. Similarly, in talking about wall displays, students' major concern was to provide something that looked colourful and interesting to the tutor. In fact, students felt quite annoyed if tutors didn't comment on them. Students never acknowledged in their discussion about wall displays that they might serve some motivational or instructional functions.

Although students noted the expectations of their college tutors, they were also remarkably resistant to much of the specific feedback that their tutors provided. The tutors themselves viewed their role as one of encouraging critical reflection on practice. Unlike the students, they did not regard successful completion of the course as testifying to the student's competence, but rather as signalling the potential of the student to reflect upon and improve their practice further. Consequently, tutors saw it as their function to sensitise students to aspects of their practice which could be improved, or simply to stimulate students to thinking about alternative ways of teaching.

There were several reasons underlying students' dismissal of tutor feedback. First of all, students were aware of the differing conceptions of teaching in the college and the school. Several students commented that their ideas for lessons had been received by teachers with the comment "That's all right in college, but..." The students came to decipher two different types of talk - talk about real teaching and talk about ideal teaching. Class teachers were

regarded as the most reliable source of knowledge about real teaching. Students felt that class teachers were the experts in this matter rather than their college tutor who was thought to be unfamiliar with the particular children, the teacher and the school, and, in some cases, to be lacking in recent teaching experience themselves. In addition, class teachers, who generally viewed their role in the training process as a supportive one, frequently provided encouragement to the students and established a pleasant working relationship which the student appreciated, whereas contacts between student and tutor were necessarily more brief and sometimes more distant. These features contributed to more effective communication occurring between teacher and student than between tutor and student, and when teacher and tutor were communicating different signals, the teacher communication was not surprisingly more effective.

There were also occasions when tutors' comments about the student's teaching were dismisssed because the student didn't understand them, or because they were regarded as unfair or unrealistic. For instance, one tutor commented that at the end of a lesson in which 4 groups in the class had been working on different activities it might have been useful to hold up some of the children's work and talk briefly about it and to indicate what the children would be going on to next, rather than simply dismissing the class. In the tutor's words, such actions might "increase the feeling of community in the class" and "give the lesson a greater sense of purposefulness and direction." But, in the student's eyes, the lesson went well. The children completed the assigned work and were well behaved and the student regarded the tutor's comments as quite unreasonable. In another case, a tutor throughout the term made reference to a student's need to structure

his lessons rather than "throwing everything in at once." This was regarded as a serious problem by both the tutor and the supervising teacher, but even at the end of the field experience, the student confessed that he didn't understand what was meant when his tutor spoke about 'structure'. Frequently students could not understand the comments being made to them, and failed to identify the problems in their practice to which the tutors were attempting to alert them.

Another reason why tutors' comments were disregarded by students is that students assessed their own teaching performance in comparison with their supervising teacher. It was their supervising teacher's practice with which they were having to fit in, and if they were doing the job as effectively as their supervising teacher, then the students believed their performance was at least satisfactory. Consequently, when tutors made critical comments about a feature of the student's teaching which was shared by the supervising teacher, the student felt that the tutor was unrealistic or that the tutor was failing to take account of the school situation.

These processes by which students rejected the criticisms of their tutors occurred in various combinations with different students. However, in their discussions about feedback, most students appeared to have dismissed, for one reason or another, quite a substantial proportion of the feedback intended by the tutors to cue them into better understanding their own practice and its effects.

Another impediment to students' learning was their own evaluation of lessons which were generally less than searching. Students often reported being stuck for something to write in their evaluations for

their teaching file. When asked after a lesson how it went, the answer would usually be an unspecific "It was O.K." or "It went fine." One student spoke of teaching being "a ritual" and that afterwards there was "rarely anything special to say about it." All of the students in fact seemed to experience difficulty in carrying out any detailed evaluation of their teaching. Their early written evaluations tended to point out such problems as difficulty with blackboard writing, voice projection, getting the right level of work for the children or noting how a particular organisational strategy worked. The vast majority of students' evaluations, however, tended to dwell on whether the lesson objectives were more or less met and whether the children appeared to enjoy it.

Again, a number of factors contributed to this. First of all, in teaching, students' attention was so much involved in what they were doing that they were unable to reflect on children's progress at the time. Afterwards, they often wished to devote their attention to the next lesson they had to plan rather than reflect upon the ones they had completed. It was also clear that students were really quite unsure of the kinds of criteria they ought to use to evaluate their work. Two students also mentioned being wary of writing down critical comments of their own lessons as this "gives ammunition to the tutors". Interestingly, even when lessons went drastically wrong there was little evaluation to identify the reasons why. Four students were observed in lessons where they completely lost control. The pupils defiantly ignored the students' commands. Students' shouts grew into bitter threats and in some cases the pupils seemed to have lost any sense of the student being there at all. After these experiences, the students were unable to talk about them. One student

immediately after such an incident said, "I'm too upset to talk about it. I can't think straight right now. May be tonight, once my mind has settled down, I'll start to think about what went wrong." In talking about these incidents several days after the event, it was clear however that their evaluation was superficial. It seemed in fact that the students really wanted to forget these painful incidents and tended to dismiss them with a general comment, such as "With the background these children have, they have no respect for women. They'll only respect a male teacher." While their comments may have partial validity, the students weren't concerned to consider why some of their lessons had been successful and others hadn't, or what they might have done to retrieve the 'disaster'.

Towards the end of the field experience, most students had gained considerable confidence in their teaching. 6 of the 10 students felt that if something went drastically wrong, they knew they could maintain control. This resulted in much more relaxed teaching. Students were also willing to experiment, trying out different forms of classroom organisation. The potential for learning from these experiences, however, again seemed highly restricted. Experimental lessons were rarely performed in a tutor's presence and although supervising teachers might have been curious about such experiments they tended to regard them as occasions for the student to try things out for themselves and consequently teachers were little involved in their planning and evaluation. The students tended to regard these experiments as unproblematic. One student, for instance, who had a class which was used to whole-class teaching decided to experiment with group work, but gave little thought to how the children were to be grouped, whether the tasks were particularly suitable for group

work or what the benefits of this type of organisation might be. Not surprisingly, the lesson itself was quite chaotic but this did not result in any penetrating analysis. The difficulties were quickly dismissed in terms of "Considering this was the first time they'd worked in groups, I think it went O.K."

Students' 'experiments' were often quite ambitious. They needed careful thought and considered evaluation, but there was no one to offer them guidance, and the students were unable to recognise and analyse the difficulties on their own.

Conclusions

The research set out to explore the conceptions student teachers have of professional learning and the mental processes they engage in in acquiring teaching competence. Although students' early experiences of teaching varied considerably, three common phases could be identified in which the students developed particular conceptions of the student teaching task, each with particular consequences for how they learned to teach. At the beginning of the field experience, students viewed the task as one of fitting in to the school and more particularly to the supervising teacher's routines. In this phase, students were particularly attuned to the expectations of teachers, pupils and others they directly encountered, and even although these often conflicted with their own preferences, they took a pragmatic approach to learning to teach, adopting those behaviours that were expected and which were also seen to work. Since the expected teacher role usually contrasted sharply with the student teachers' ideal teacher role, this often accompanied considerable anxiety. Towards

the middle of the one term placement, student teachers became more conscious of the assessment of their practice. They began to view the field experience as an assessment task, in which a particular type and level of classroom performance had to be demonstrated to the tutor. This resulted in students tuning in to those behaviours that signalled competence, and received the supervising tutor's approval. Later in the field experience, once confidence had been established and competence demonstrated, student teachers experimented with different types of lessons, alternative classroom organisation, and new subject matter. These were regarded by teachers and tutors as occasions for students to 'find their own way' and were characterised by minimal supervision.

As for the content of students' learning, students could readily cite examples of what they had learned about pupils, teaching strategies and the curriculum. Students also acquired typificatory knowledge - for instance, about what 10 year olds are generally like or how certain activities are generally managed - as well as particular knowledge about individual children, classroom resources, etc., which was exceptionally useful to them in the processes of planning. Students' learning, however, seemed to reach a plateau after the first few weeks of the field experience and several factors impeded further learning.

Despite the fact that the college in which these students trained is renowned for its curriculum development work in primary schools, that relationships between college and schools were generally good, and that tutors and supervising teachers were experienced and committed in the work they did, the field experience seemed to offer a much greater

potential for professional learning than was actually realised. On the basis of the research, a number of general recommendations for the design of pre-service training could be made, and these might also have a wider application. Firstly, although tutors viewed the field experience as an opportunity to explore, analyse and develop teaching competence, certain features of the course, such as the assessment system, and the beliefs of teachers in the schools, seemed to persuade student teachers that the field experience was an assessment hurdle, in which the polished performance must be satisfactorily demonstrated. If pre-service teacher education courses are genuinely to pursue the objective of using field experiences to initiate and promote a process of professional growth, some thought must be given to the way in which the course is organised and the kind of support that is offered in schools. For instance, steps could be taken to minimise the 'driving test' conception of the field experience, whilst still resolving the dilemma of fostering reflective teaching and also identifying incompetent students, by splitting the field experience into two blocks. The first could be assessed in terms of basic competence, and the second on the extent to which students were able to analyse and evaluate their own teaching.

Secondly, some thought must be given to how to improve students' abilities to analyse and reflect upon their own teaching and that of other teachers they observe. The research suggests that tutors and students often don't share a common language or set of understandings of classroom processes, and that the roles and relationships that are essential for a serious, meaningful professional discussion about practice are frequently not established. There also seemed to be a tendency, once the student had demonstrated a basic classroom

competence, for the tutor and teacher to withdraw from discussions with the students about their work, thus depriving the student of the opportunity to engage in debate about their practice and to be encouraged to reflect and learn further from experience.

Thirdly, learning to teach is a complex process involving interactions and changes in cognition, affect and performance. This contrasts sharply with the view of professional learning frequently evident in schools, where teachers greatly undervalue the process, typically conceptualising it as a matter of picking up practical tips, best learned through trial and error and by being thrown in at the deep end. If we are to guide students through this process then as tutors and supervising teachers we must develop a greater sensitivity to the complexity of professional learning, and acknowledge its importance in professional preparation.

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